

REMARKS

Reconsideration of this application, as Amended, is respectfully requested. By this Amendment the Abstract of the Disclosure is being shortened so as not to exceed 150 words in length. The Amended Abstract is now believed to be of proper language and format. Also, claim 31 is being amended to more particularly point out and distinctly claim the invention. The addition of "new matter" has been scrupulously avoided. Claims 22-36 remain in this case.

The allowance of claims 22-30, in the initial Office Action, is gratefully acknowledged.

Claims 31-36 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Ninane et al. (U.S. Patent 5,478,447) in view of Hirano et al. (U.S. Patent 6,352,653). This rejection, to the extent that it is deemed applicable to the claims as now presented, is respectfully, but most strenuously traversed.

Amended independent claim 31 is directed to waste treatment equipment which includes, in part:

means for dechlorinating a flue gas which causes hydrogen chloride contained in said flue gas to react with a sodium-based dechlorinating agent to remove sodium chloride as a residue of dechlorination on a filter cloth, ...

said sodium-based dechlorinating agent comprising a mixture of sodium hydrogencarbonate and hydrophilic anti-caking agent, and having an angle of repose of 40° or more, a dispersibility of less than 50 and a floodability index value of less than 90, whereby occurrence of an excess pressure drop in the filter cloth and occurrence of leakage of the dechlorinating agent from the filter cloth are prevented.

Applicants have discovered that by using a sodium-based dechlorinating agent having the above specified characteristics, in which the hydrophilic anti-caking agent has a slight cohesion, flowability of sodium hydrogencarbonate particles and the anti-caking agent become sluggish, whereby the sodium hydrogencarbonate particles or anti-caking agent particles never become entrapped in the filter cloth, and form a stable filtration layer on the surface of the filter cloth. It is consequently possible to prevent occurrence of an excess pressure drop in the filter cloth, and occurrence of leakage of the dechlorinating agent from the filter cloth.

See p. 5 lines 1-22, and p. 34 lines 1-18, and tables 5 and 6 of the original specification for further description of this technical effect of the present invention.

A primary object of the present invention is thus to prevent occurrence of an excessive pressure drop or leakage in the filter cloth. There is no recognition of this problem in the applied prior art, nor teaching or suggestion of Applicants' solution.

Ninane et al. teach a METHOD FOR PRODUCING AN AQUEOUS INDUSTRIAL SODIUM CHLORIDE SOLUTION but, as the Examiner notes, fail to disclose a hydrophilic anti-caking agent and having an angle of repose of 40° or more, a dispersability of less than 50, and floodability index value of less than 90.

Hirano et al. is directed to an acid component-removing agent which comprises sodium hydrogencarbonate having a volume-based mean particle diameter of from 1 to 9 µm. Hirano et al. further teach adding hydrophilic anti-caking agent to the sodium hydrogencarbonate to prevent coagulation of the sodium hydrogencarbonate and facilitate dispersion of the sodium hydrogencarbonate in a flue gas.

However, there is no recognition in the Hirano et al. reference or in the combined teachings of the two applied references, of the problems that can occur if particles of the sodium hydrogencarbonate and the anti-caking agent become entrapped in a filter cloth of a dust collector. Further, there is no recognition in these references of the particular characteristics and of the particular values of such characteristics which will prevent particles of sodium hydrogencarbonate and of the anti-caking agent from becoming entrapped in a filter cloth, thereby avoiding excess pressure drop in the filter cloth and leakage from the filter cloth.

Absent recognition of the problem being addressed, the characteristics of the dechlorinating agent that need to be controlled, and the optimum values of such characteristics, there would be no incentive or motivation to modify the combined teachings of the applied references in the fashion proposed by Applicants. Routine experimentation to ensure good reactivity and fluidity of the components, would not produce the present invention, since it is sluggish flowability which is desired.

For all the above reasons, independent claim 31, and dependent claims 32-36 which ultimately depend from claim 31, are believed to be in condition for allowance. Such action is respectfully requested.

If it would advance the prosecution of this application, the Examiner is cordially invited to contact Applicants' representative at the below indicated telephone number.

Respectfully submitted,



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